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EXAMINER

PYZOCHA, MICHAEL J

ART UNIT PAPER NUMBER

2137

DATE MAILED: 11/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/927,999

Applicant(s)

DIAB ET AL.

Examiner

Michael Pyzocha

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3, 6-12, 15-18, 22-24, 26-29 and 31-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-12, 15-18, 22 and 32-34 is/are rejected.
- 7) ☒ Claim(s) 23, 24, 26-29 and 31 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

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**DETAILED ACTION**

1. Claims 1-3, 6-12, 15-18, 22-24, 26-29 and 31-34 have been considered.

***Allowable Subject Matter***

2. Claims 23, 24, 26-29, and 31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 6-7, 10-12, 15-16, 22, and 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walmsley, U.S. Patent No. 6,816,968, in view of Gormish, U.S. Patent No. 6,073,118.

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As per claims 1, 10, and 22, the applicant describes a method for comprising the following steps which are anticipated by Walmsley in view of Gormish:

a) reading the memory of the module to obtain the vendor data and first magic code therefrom module (Walmsley: Col 24, lines 55-60);

b) generating a second magic code based on the vendor data (Walmsley: Col 24, lines 61-63);

c) outputting a magic code valid signal when the second magic code matches the first magic code, and a magic code invalid signal when the second magic code does not match the first magic code (Walmsley: Col 24, lines 65-67; Col 25, lines 1-5);

d) wherein the vendor data includes a module serial number, the module serial number being unique to the module when the module is from an approved vendor, and wherein the step of generating includes the step of (Walmsley: Col 55, lines 3-6):

e) forming the second magic code based on the module serial number (Walmsley: Col 55, lines 3-6);

and further comprising the steps of:

f) obtaining a second serial number from a second module, the second module serial number being unique to the second

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module when the second module is from an approved vendor

(Walmsley: Col 55, lines 3-6);

g) outputting a serial number valid signal when the module serial number of the vendor data does not match the second serial number from the second module, and a second serial number invalid signal when the serial number of the vendor data matches the second serial number from the second module (Gormish: Col 6, lines 32-49);

Walmsley discloses a system in which a module such as a printer cartridge is installed in a printer and authentication tests are performed on the module to compute a first magic code from vendor data, both of which are pre-programmed in relation to the method steps above. Walmsley also discloses that the printer cartridge sends a message which includes a serial number with the first magic code. The message is encrypted to form a second magic code, and the second magic code is compared with the first magic code generated at the untrusted module. If another module, such as a second print cartridge, is installed in the Walmsley system a second serial number would be obtained from the second module and authentication of the second module would proceed in the same manner as the authentication of the first module.

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Walmsley, however, does not disclose part g. Though Walmsley discloses that a serial number is received at the authentication site and serial numbers of different modules should be different (Col 55, lines 3-6), he provides no means for creating a signal when the serial number matches a serial number already seen.

Gormish discloses the idea of keeping a log of received serial numbers, checking to make sure a serial number has not been received before, and sending a confirmation signal based on the check. Combining the ideas of Gormish with Walmsley allows for the serial number received at the authentication site to be checked to confirm uniqueness as desired by Walmsley (Col 55, lines 3-6). It would have been obvious to one of ordinary skill in the art at the time the invention was filed to combine the ideas of Gormish with those of Walmsley because doing so provides a means to confirm uniqueness of a serial number.

As per claims 2, 7, 11, and 16 the applicant describes the method of claims 1,6,10, and 16, which are anticipated by Walmsley in view of Gormish, with the following additional limitations that are met by Walmsley:

a) reading the magic key from the memory of the computerized device (Col 24, lines 61-63);

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b) forming the second magic code based on the magic key and the vendor data (Col 24, lines 61-63);

The applicant should note that both the trusted authentication chip, which generates the second magic code, and the untrusted authentication chip, which generates the first magic code, both have two secret keys stored in memory. The second secret key (magic key) is used to generate the first and second magic codes.

As per claims 3 and 12, the applicant describes the method of claims 2 and 11, which are anticipated by Walmsley in view of Gormish, with the following additional limitation which is also met by Walmsley:

Performing a message-digest algorithm operation on the magic key and the vendor data (Col 38, lines 53-63; Fig 6);

Fig 6 illustrates an embodiment of the invention where the chip being authenticated sends the vendor data (M) and the first magic code ( $Sk_2 [R \parallel M]$ ) to the trusted chip (63 of Fig 6). The applicant should note that the first magic code is a signature algorithm as described in Col 38, lines 53-63. A signature algorithm is a message-digest algorithm with encryption. A variety of hash, or digest, algorithms which can be used are

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described in the Background to the Invention by Walmsley and the Summary of the Invention (Col 25, lines 31-36).

As per claims 6 and 15, the applicant describes the method of claims 1 and 10, which are anticipated by Walmsley in view of Gormish, with the following additional limitation which is also anticipated by Walmsley:

Forming the second magic code based on the vendor identification number, the character string representing the vendor name, and the module serial number (Col 24, lines 61-63; Col 55, lines 3-6).

As per claims 8, 9, 17, and 18, the applicant describes the method of claims 1 and 10, which are anticipated by Walmsley in view of Gormish, with the following additional limitation:

a) reading the vendor data from the non-volatile memory of the small form factor pluggable component (Walmsley: Col 24, lines 56-64; Col 26, lines 36-43);

Walmsley in view of Gormish disclose a device which is authenticated. Walmsley in view of Gormish, however, do not disclose that the device is particularly a small-form factor pluggable device. The examiner takes official notice because it



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is well-known that a small-form factor pluggable device can be authenticated.

As per claims 32-34, the applicant describes the method of claims 1, 10 and 22, which are anticipated by Walmsley in view of Gormish, with the following additional limitation:

The externally readable memory of the module is a non-volatile memory pre-programmed with the vendor data and the first magic code prior to assembling the module into the computerized device (Walmsley: Col 29, lines 1-11).

5. Claims 1, 10, 22 and 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walmsley in view of Sekiya, U.S. Patent No. 6,484,128.

As per claims 1, 10, 19, and 22, the applicant describes a method comprising the following steps which are anticipated by Walmsley in view of Sekiya:

a) reading the memory of the module to obtain the vendor data and first magic code therefrom (Walmsley: Col 24, lines 55-60);

b) generating a second magic code based on the vendor data (Walmsley: Col 24, lines 61-63);

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c) outputting a magic code valid signal when the second magic code matches the first magic code, and a magic code invalid signal when the second magic code does not match the first magic code (Walmsley: Col 24, lines 65-67; Col 25, lines 1-5);

d) wherein the vendor data includes a module serial number, the module serial number being unique to the module when the module is from an approved vendor, and wherein the step of generating includes the step of (Walmsley: Col 55, lines 3-6):

e) forming the second magic code based on the module serial number (Walmsley: Col 55, lines 3-6);

f) obtaining a second serial number from a second module, the second module serial number being unique to the second module when the second module is from an approved vendor (Walmsley: Col 55, lines 3-6);

g) outputting a serial number valid signal when the module serial number of the vendor data does not match the second serial number from the second module, and a second serial number invalid signal when the serial number of the vendor data matches the second serial number from the second module (Sekiya: Col 7, line 37 to Col 8, line 67);

Walmsley discloses all the limitations of parts a through f. However, Walmsley does not appear to disclose the.

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particulars of part f. Sekiya discloses a module authentication system in which a plurality of modules are authenticated as being from approved vendors based on vendor identification data such as version numbers (serial numbers) and vendor names which are received from the modules. When a module is installed, the vendor data is obtained from the module and sent to an approval site where the vendor name and version number (serial number) are compared to stored data on similar modules in the system which have been known to cause problems. If a match occurs, the system transmits a fail signal (see Fig 20) so that a new module can be installed.

For example, if a new module is installed which has version number 1234 and is from company A, the vendor data is obtained and compared to stored vendor data to see if there is a history of a problem with that module. If the version number and company name of the module have been logged as having problems, the system transmits a fail signal (see Fig 20) and requests that a module from another vendor be installed. If the version number and the company name of the module have not been logged as having problems and no match is found, the module is valid.

It would have been obvious to one of ordinary skill in the art at the time the invention was filed to combine the ideas of Sekiya with those of Walmsley in the case where a particular

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module (such as a color cartridge from company A should not be installed because there is logged record of problems with the module.

As per claims 32-34, the applicant describes the method of claims 1, 10 and 22, which are anticipated by Walmsley in view of Sekiya, with the following additional limitation:

The externally readable memory of the module is a non-volatile memory pre-programmed with the vendor data and the first magic code prior to assembling the module into the computerized device (Walmsley: Col 29, lines 1-11).

### ***Response to Arguments***

6. Applicant's arguments filed 10/06/2006 have been fully considered but they are not persuasive. Applicant argues that the information in the untrusted chip of Walmsley is not pre-programmed nor is it externally readable memory.

With respect to the argument that the information in the untrusted chip is no pre-programmed Applicant is directed to column 29 lines 1-11 where the authentication information (i.e. the information used in the authentication protocol of columns 24 and 25) is stored in non-volatile memory at the time of manufacture. Therefore the information is pre-programmed.

With respect to Applicant's argument that the vendor data and magic code are not stored in externally readable memory, the untrusted chip contains the secret keys and the data message read from memory used to encrypt and perform the authentication protocol (see column 24). This information is stored in the chip at the time of manufacture (as put forth above) and since the untrusted chip is external to the system the memory in the untrusted chip is externally readable memory.

#### **Conclusion**

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Young (US 6563600) and Rademacher (US 6804727) teach methods of storing information in non-volatile memory external to the system prior to the assembly into the system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Pyzocha whose telephone number is (571) 272-3875. The examiner can normally be reached on 7:00am - 4:30pm first Fridays of the bi-week off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emmanuel Moise can be reached on (571) 272-3865. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MJP

  
**EMMANUEL L. MOISE**  
**SUPERVISORY PATENT EXAMINER**